This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (canceled)

Claim 2 (previously amended): The method of claim 3, wherein the vector particle is a retroviral vector particle comprising a modified retroviral genome containing the gene of interest.

Claim 3 (previously amended): A method for transducing stem cells with a vector particle containing a gene of interest, which method comprises contacting target stem cells with vector particles pseudotyped with feline endogenous virus RD114 envelope protein and containing a gene of interest, wherein the vector particles are substantially free of factors that induce stem cell differentiation by being substantially free of producer cells and producer cell supernatant, and whereby the transduced stem cells are capable of expressing the gene of interest and repopulating cell lineages when transplanted into a host.

Claim 4 (previously amended): The method of claim 2, wherein the retroviral particles are pre-adsorbed onto a surface that promotes adherence of the retroviral particles.

Claim 5 (original): The method of claim 4, wherein the surface is coated with an adherence promoting agent.

Claim 6 (original): The method of claim 5, wherein the adherence promoting agent is retronectin.

Claim 7 (original): The method of claim 2, wherein the retroviral particles are freed of producer cells and producer cell supernatant by ultracentrifugation.

Claim 8 (original): The method of claim 2, wherein the retroviral particle is an oncoviral particle.

Claim 9 (original): The method of claim 2 wherein the retroviral particle is a lentiviral particle.

Claim 10 (previously amended): The method of claim 3 wherein the target stem cells are pre-stimulated.

Claim 11 (original): The method of claim 10, wherein the target stem cells are prestimulated by treatment with signaling molecules selected from the group consisting of cytokines, growth factors and phytohemagglutinin.

Claim 12 (previously amended): The method of claim 3 wherein the target stem cells are hematopoietic stem cells.

Claim 13 (original): The method of claim 12 wherein the target hematopoietic stem cells are selected from the group consisting of cord blood cells, mobilized peripheral blood cells, bone marrow cells, and liver.

Claim 14 (original): The method of claim 13, wherein the target hematopoietic stem cells are selected from the group consisting of CD34+ cells and CD34+ CD38- cells.

Claim 15 (original): The method according to claim 2, wherein upon engraftment of the transduced stem cells contacted one time with the retroviral particles into a host, greater than 10% of the transduced cells express the gene of interest.

Claim 16 (original): The method according to claim 15, wherein greater than about 40% of the transduced cells express the gene of interest.

Claim 17 (previously amended): A population of stem cells transduced with vector particles pseudotyped with feline endogenous virus RD114 envelope protein and containing a gene of interest, wherein the vector particles are substantially free of factors that induce stem cell differentiation by being substantially free of producer cells and producer cell supernatant and whereby the transduced stem cells are capable of expressing the gene of interest and repopulating cell lineages when transplanted into a host.

Claim 18 (original): The population of stem cells of claim 17, wherein the vector particle is a retroviral particle comprising a modified retroviral genome containing the gene of interest.

Claims 19-37 (withdrawn)